

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Sprey, et al.)	Group Art Unit Unknown
Appl. No.	:	Unknown)	
Filed	:	Herewith)	
For	:	METHOD AND)	
		INSTALLATION FOR)	
		ETCHING A SUBSTRATE)	
Examiner	:	Unknown)	

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Prior to examination of the above-captioned application, please amend the application as follows:

IN THE SPECIFICATION:

Please amend the specification as follows:

On page 1, immediately before line 3, please insert--Field of the Invention--.

On page 1, line 3, please replace “according to the preamble of claim 1” with --and installation for etching a substrate.--

On page 1, between lines 3 and 4, please insert --Background of the Invention--.

On page 1, between lines 31 and 32, please insert --Summary of the Invention--.

On page 2, lines 3-4, please replace the sentence with --One aspect of the present invention involves a method for etching a substrate. A substrate is placed in an etching chamber and at least one of a first etchant and a first etch catalyst originating from a first source is introduced into the etching chamber via an auxiliary chamber positioned within a first path. The

Filed : Herewith

introducing includes intermittently closing an inlet of the auxiliary chamber after introduction of the at least one of a first etchant and a first etch catalyst. The outlet of the auxiliary chamber is opened to discharge the at least one of a first etchant and a first etch catalyst into the etching chamber so that the inlet is closed when the outlet is opened. At least one of a second etchant and a second etch catalyst originating from a second source is introduced into the etching chamber via a second path. The substrate is etched and the etching chamber is flushed following the etching. The substrate is then removed from the etching chamber.--

On page 4, between lines 11 and 12, please insert--Brief Description of the Drawings--;

On page 4, between lines 16 and 17, please insert --Detailed Description of the Invention--;

On page 8, line 1, please replace "Claims" with--WHAT IS CLAIMED --.

IN THE CLAIMS:

Please cancel Claims 1-10 without prejudice.

Please add new claims as follows:

11. A method for etching a substrate, comprising:

placing a substrate in an etching chamber;

introducing at least one of a first etchant and a first etch catalyst originating from a first source into said etching chamber via an auxiliary chamber positioned within a first path, said introducing comprising intermittently closing an inlet of the auxiliary chamber after introduction of said at least one of a first etchant and a first etch catalyst followed by opening an outlet of the auxiliary chamber to discharge said at least one of a first etchant and first etch catalyst into said etching chamber, such that the inlet is closed when the outlet is opened;

introducing at least one of a second etchant and a second etch catalyst originating from a second source via a second path;

etching said substrate;

flushing said etching chamber; and

removing said substrate from said etching chamber.

Filed : Herewith

12. The method of Claim 11, wherein said flushing of said etching chamber is carried out via said auxiliary chamber, said auxiliary chamber being evacuated after etching and prior to refilling the auxiliary chamber.

13. The method of Claim 11, further comprising shutting off said at least one of a second etchant and a second etch catalyst to said chamber when said auxiliary chamber is connected to said etching chamber.

14. The method of Claim 11, wherein the first etchant is hydrogen fluoride.

15. An installation for etching a substrate, comprising:

an etching chamber for a substrate, the etching chamber having an opening;

a piping system coupled to the opening and providing for at least a first fluid feed and a second fluid feed, the first and second fluid feeds configured to separately provide etching fluids to the etching chamber via the piping system; and

an auxiliary chamber positioned within the piping system and having an inlet and an outlet, wherein the inlet includes a controllable shut-off valve and is in communication with the first fluid feed, wherein the outlet includes a controllable shut-off valve and is in communication with the etching chamber, and wherein only one of said shut-off valves is open at a time.

16. The installation of Claim 15, wherein the piping system includes a bypass line for bypassing said auxiliary chamber.

17. The installation of Claim 15, wherein said etching chamber is connected to a vacuum pump.

18. The installation of Claim 15, wherein the piping system includes a valve coupled to the second fluid feed.

19. The installation of Claim 15, wherein said etching chamber is of a plastic material and is configured to withstand a reduced pressure in said etching chamber.

20. The installation of Claim 19, wherein said plastic material comprises polyvinylidene fluoride.

Filed : Herewith

REMARKS

These amendment are to more clarify the claim language and to avoid multiple-dependent claims. Entry of the amendments is respectfully requested.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: January 29, 2001

By: Andrew H. Simpson

Andrew H. Simpson

Registration No. 31,469

Attorney of Record

620 Newport Center Drive

Sixteenth Floor

Newport Beach, CA 92660

(949) 760-0404

H:\DOCS\MOH\MOH-4620.DOC:ad
012601